

3. EXPOSURE MONITORING AND SAMPLING

Monitoring and sampling will be used throughout project operations to (a) assess the effectiveness of engineering controls, (b) determine the appropriate PPE requirements for individual tasks, and (c) determine the need to upgrade or downgrade PPE as described in Section 5. Monitoring with direct-reading and mobile instruments will be done to provide health and safety professionals with real-time and trending data to assess the effectiveness of control measures.

Tables provided in this section present the strategy for exposure monitoring and sampling:

- Table 3-1: Tasks and hazards to be monitored and monitoring instrument category
- Table 3-2: Monitoring instrument category and description
- Table 3-3: Action levels and associated responses to specific hazards.

Table 3-1. Tasks and hazards to be monitored, frequency, and monitoring instrument category.

Tasks	Hazard(s) to be Monitored ^a	Instrument Category to be Used
• Mobilize to/demobilize from Track 2 sites	Radiation/radionuclide contamination—(alpha, beta, gamma) (TRA-60, TRA-63, and CFA-10A)	1
• Hand trowel surface/hand auger soil, and collect samples	Chemicals, lead, nonradiological constituents, and possible hazardous atmospheres	2, 3
• Hollow-stem drill rig (or equivalent) operation (TRA-63 only)	Respirable dust—silica and other particulates of concern	2, 4
	Mercury vapor (TRA-60 only)	5
• Hand and mechanical excavation (TRA-63)	Hazardous noise	6
	Ergonomics, repetitive motion, lifting	7
• Backfill excavated area(s)	Heat and cold stress	8
• Decontaminate sampling equipment/drill split spoons		
a. Monitoring and sampling will be conducted as deemed appropriate by project Industrial Hygiene and Radiation Control personnel based on specific tasks and site conditions.		

Table 3-2. Monitoring instrument category and description.

Instrument Category	Instrument Category Number Description ^a
1	<p>Alpha: Count rate—Bicron/NE Electra (DP-6 or AP-5 probe) or equivalent.</p> <p>Beta-gamma: Count rate—Bicron NE/Electra (DP-6, BP-17 probes) or equivalent. Grab sampler—SAIC H-810 or equivalent.</p>
2	<p>Organic vapor: Direct-reading instruments (photo ionization detector, flame ionization detector, or infrared detector) detector tubes or grab samples.</p> <p>Dust: Direct-reading instrument (optical particle counter or equivalent).</p>
3	<p>Organic vapors and other airborne constituents, particulate, or hazardous atmospheres: Personal sampling pumps with appropriate media for partial- and full-period sampling using National Institute of Occupational Safety and Health (NIOSH) or OSHA-validated methods, direct-reading instruments, or remote-sensing detectors.</p>
4	<p>Silica dust, respirable: NIOSH 7500 or equivalent, personal sampling pump, 10-mm cyclone, full-period sampling.</p>
5	<p>Mercury vapor: Jerome mercury vapor analyzer (or equivalent).</p>
6	<p>Noise: American National Standards Institute (ANSI) Type S2A sound level meter or ANSI S1.25-1991 dosimeter (A-weighted scale for time-weighted average [TWA] dosimetry, C-weighted for impact-dominant sound environments).</p>
7	<p>Ergonomic: Observation and ergonomic assessment of activities in accordance with MCP-2692 and ACGIH TLV.</p>
8	<p>Heat stress: Wet-bulb globe temperature, body weight, fluid intake, heart rate in accordance with MCP-2704.</p> <p>Cold stress: Ambient air temperature, wind chill charts in accordance with MCP-2704.</p>

a. Equivalent instrumentation other than those listed may be used.

Table 3-3. Action levels and associated responses for project operational hazards.

Contaminant or Agent Monitored	Action Level	Response Taken if Action Level is Exceeded
Nonradiological nuisance particulates (insoluble or poorly soluble—not otherwise specified)	>10 mg/m ³ (inhalable fraction) >3 mg/m ³ (respirable fraction)	<ol style="list-style-type: none"> 1. Substitute equipment or change method to reduce emissions at source. 2. Verify engineering control operation (where in place), or institute engineering controls (such as use of closed cabs for equipment operators). 3. Evaluate air movement (wind) conditions and reschedule tasks, or reposition personnel to upwind position of source. 4. Move operation to alternate location (with engineering controls if possible). 5. Use wetting or misting methods to minimize dust and particulate matter. 6. <u>IF</u> wetting or misting methods prove ineffective, <u>THEN</u> don respiratory protection^a (as directed by IH).
Nonradiological airborne contaminant (chemical, dust, fume, fiber, or particulate)	<p>Lead - 30 µg/m³ (29 CFR 1926.62)</p> <p>Mercury - 0.03 mg/m³ STEL</p> <p>Silica - \geq OSHA PEL $\frac{10 \text{ mg/m}^3}{\% \text{silica} + 2}$ (29 CFR 1910.1000 [Z3])</p> <p>Others based on individual contaminant exposure limit (ACGIH TLV or OSHA PEL) and 29 CFR 1910 substance-specific requirements.</p> <p>Generally, sustained levels at the TLV or PEL in the worker's breathing zone for two minutes should be used as the action limit. Use short-term exposure limits, ceiling values, or the OSHA substance-specific action limit when they exist.</p>	<ol style="list-style-type: none"> 1. Substitute equipment or change method to reduce emissions at source. 2. Verify engineering control operation (where in place), or institute engineering controls (such as wetting of source materials use of closed cabs for equipment operators). 3. Evaluate air movement (wind) conditions reschedule tasks or reposition personnel to upwind position of source. 4. Move operation to alternate location (with engineering controls if possible). 5. <u>IF</u> engineering and administrative controls do not control contaminant below exposure limit, <u>THEN</u> reevaluate engineering and administrative controls or don respiratory protection.^a 6. <u>IF</u> OSHA substance-specific standard action limit is exceeded, <u>THEN</u> initiate applicable medical surveillance requirements.

Table 3-3. (continued).

Contaminant or Agent Monitored	Action Level	Response Taken if Action Level is Exceeded
<p>Nonradiological hazardous atmosphere (TRA-63 excavation only)</p> <p>Chemical immediately dangerous to life or health (IDLH), oxygen deficient, oxygen enriched, 10% of chemical lower explosive limit (LEL)</p>	<p>As defined by MCP-2749, confined spaces are based on criteria such as oxygen level, individual contaminant IDLH value, and LEL.</p> <p>Note: <i>This is provided as a contingency only. If the excavation-competent person suspects that a hazardous atmosphere exists, he/she must contact the project IH for further evaluation.</i></p> <p><i>No entry into an area or space containing a hazardous atmosphere is permitted without the authorization of the project operations manager, or representative, in conjunction with health and safety professionals. This authorization will be demonstrated through the use of approved operational procedures or other work-control documents in conjunction with a confined space entry permit (MCP-2749).</i></p>	<ol style="list-style-type: none"> 1. Eliminate the hazardous atmosphere through the use of engineering controls or natural ventilation. 2. Reschedule operations when the excavation atmosphere is safe to enter. 3. Evaluate the excavation to be entered. <u>IF</u> the operation can be conducted outside the excavation, <u>THEN</u> perform operation without entry. 4. Measure the atmosphere before initiating operation or personnel entry, verify entry conditions are acceptable (e.g., oxygen and LEL), and use engineering controls to maintain a safe atmosphere and below-specified exposure limit. Use the permit system to authorize entry (if deemed a confined space). 5. <u>IF</u> engineering control fails to keep the contaminant below a safe atmospheric and exposure limit, <u>THEN</u> stop operation and evacuate personnel until a safe atmosphere and specified entry conditions can be achieved.

Table 3-3. (continued).

Contaminant or Agent Monitored	Action Level	Response Taken if Action Level is Exceeded
Hazardous noise levels	<85 dBA 8-hr TWA or equivalent TWA for 10- or 12-hr exposure	No action.
	85 to 114 dBA or equivalent TWA for 10- or 12-hour exposure	<ol style="list-style-type: none"> 1. Substitute equipment with lower noise-generating type. 2. Isolate noise source, or place sound-absorbing barrier in noise path. 3. Hearing protection is required to attenuate hazard to below 85 dBA 8-hr TWA or equivalent TWA for 10- or 12- hr exposure (device noise reduction rating).
	(a) >115 dBA (b) >140 decibels C-weighted (dBC)	(a) Isolate source, evaluate noise-reduction rating for single device, and use double protection as needed. (b) Control entry around source, and isolate it. No exposure to continuous, intermittent, or impact noise in excess of a peak 140 dBC level.
Heat and cold stress	As defined in MCP-2704	As defined in MCP-2704 and based on IH professional judgment.
Radiological	As defined in the PRD-183	Training, posting, and PPE as required in PRD-183.
Other facility or INEEL alarms	Facility or INEEL site alarm	See Subsection 10.6 for emergency response after facility or INEEL alarms.
a. Respiratory protection and clothing as prescribed by the project IH and Radiation Control personnel (based on contaminant of concern). See Section 5 for additional PPE requirements.		

Industrial Hygiene and Radiological Control (RadCon) personnel (at the TRA-63 site) will monitor the environment and personnel by using direct-reading instrumentation, swipe collection, and full- and partial-period air sampling, as deemed appropriate and in accordance with MCPs, OSHA substance-specific standards, and the RWP. Instrumentation listed in Table 3-2 will be used or equivalent instruments selected based on the site-specific conditions and contaminants associated with project tasks. The IH and radiological control technician (RCT) will be responsible for determining the best monitoring technique and type of instruments for nonradiological and radiological contaminants, respectively, based on site-specific conditions. Safety hazards and other physical hazards will be monitored and mitigated as outlined in Section 2.

3.1 Industrial Hygiene Area and Personal Monitoring and Instrument Calibration

The project IH will conduct full- and partial-period sampling of airborne contaminants, monitor physical agents listed on Table 3-1, and monitor other agents as deemed appropriate. All air sampling will be conducted using applicable National Institute of Occupational Safety and Health (NIOSH), OSHA, or other validated methods. Both personal and area sampling and monitoring may be conducted.

Various direct-reading instruments may be used to determine the presence of nonradiological and other physical agents. The frequency and type of sampling and monitoring will be determined based on changing site conditions, direct-reading instrument results, observation, and professional judgment. Sampling and monitoring will be conducted in accordance with the MCP-153, “Industrial Hygiene Exposure Assessment.”

All monitoring instruments will be maintained and calibrated in accordance with the manufacturer’s recommendations, existing Industrial Hygiene protocol, *Manual 14A—Safety and Health—Occupational Safety and Fire Protection*, and *Manual 14B—Safety and Health—Occupational Health*. Direct-reading instruments will be calibrated, at a minimum, before daily use and more frequently as determined by the project IH. Calibration information, sampling and monitoring data, direct-reading instrument results, and field observations will be recorded as stated in Section 12.

3.2 Area Radiological Monitoring and Instrument Calibration

TRA-60, TRA-63, and CFA-10A might present radiological hazards. Monitoring will be conducted to ensure that controls in these areas are adequate and limiting conditions are not exceeded. Direct-reading instruments will be used and sampling may be conducted by the RCT, as deemed appropriate and required by the job-specific RWP. Monitoring will be done in accordance with *Manual 15B—Radiation Protection Procedures* and *Manual 15C—Radiological Control Procedures*. RadCon personnel will use the data obtained from monitoring to evaluate the effectiveness of engineering controls, evaluate decontamination methods and procedures, and alert personnel to potential radiation and contamination sources.

RadCon personnel will be responsible for choosing the appropriate radiological survey equipment. Daily operational and source checks will be done on all portable survey instruments to ensure they are within the specified baseline calibration limits. Accountable radioactive sources will be maintained in accordance with MCP-137, “Radioactive Source Accountability and Control.” Radiological survey and monitoring equipment will be maintained and calibrated in accordance with the manufacturer’s recommendations, existing RadCon protocol, and MCP-93, “Health Physics Instrumentation.”

3.3 Personnel Radiological Exposure Monitoring

Personal radiological monitoring will be conducted to quantify radiation exposure and the potential for uptakes. This monitoring will include the use of external dosimetry, surface monitoring, and internal dosimetry methods to ensure engineering controls, administrative controls, and work practices are effectively mitigating radiological hazards.

3.3.1 External Dosimetry

Dosimetry requirements will be based on the radiation exposure potential during project tasks. When dosimetry is required, personnel who enter the project area must wear personal dosimetry as specified by the RadCon personnel and the RWP and in accordance with the *Radiological Control Manual* (PRD-183).

When RWPs are required for project tasks, the Radiological Control and Information Management System (RCIMS) will be used to track external radiation exposures to personnel. Individuals are responsible for ensuring all required personal information is provided to RadCon personnel for entry into RCIMS and for logging into RCIMS when electronic dosimeters are used.

3.3.2 Internal Monitoring

The purpose of internal dose monitoring is to demonstrate the effectiveness of contamination control practices and document the nature and extent of any internal uptakes. Internal dose evaluation programs must comply with Table 2-1 of 10 CFR 835(d). The requirement for whole body counts and bioassays will be based on project-specific activities and will be the determination of the radiological engineer. Bioassay requirements will be specified on the RWP, and personnel are responsible for submitting required bioassay samples upon request.

4. ACCIDENT AND EXPOSURE PREVENTION

WAG 10 Track 2 project activities will present numerous safety hazards and potential radiological hazards. It is critical that all personnel understand and follow the requirements of this HASP. Engineering controls, hazard isolation, specialized work practices, and PPE use will be implemented to eliminate or mitigate hazards and exposures where feasible. However, personnel are responsible for identifying and controlling hazards in their work area in accordance with Integrated Safety Management System (ISMS) principles and practices. **At no time will hazards be left unmitigated without implementing some manner of control (e.g., engineering controls, administrative controls, or the use of PPE).** Project personnel should use stop work authority in accordance with MCP-553, “Stop Work Authority,” when imminent danger to personnel, equipment, or the environment is perceived.

This HASP is to be used in conjunction with PRD-25, “Activity Level Hazard Identification, Analysis, and Control,” and work authorization and control documents such as STD-101, “Integrated Work Control Process”; MCP-3562, “Hazard Identification, Analysis, and Control of Operational Activities”; work orders; JSAs; and operational technical procedures. When appropriate, this HASP will also be used in conjunction with GDE-6212, “Hazard Mitigation Guide for Integrated Work Control Process”; mitigation guidance; and RWP.

4.1 Voluntary Protection Program and Integrated Safety Management

The INEEL safety processes embrace the Voluntary Protection Program (VPP) and ISMS criteria, principles, and concepts to identify and mitigate hazards, thereby preventing accidents. All management and workers are responsible for implementing safety policies and programs and for maintaining a safe and healthful work environment. Project personnel are expected to take a proactive role in preventing accidents, ensuring safe working conditions for themselves and fellow personnel, and complying with work-control documents, procedures, and permits.

The **ISMS** is focused on the **system** side of conducting operations, and **VPP** concentrates on the **people** aspect of conducting work. Both programs define work scope, identify and analyze hazards, and mitigate the hazards. Additional information about these programs is available on the INEEL Intranet. Bechtel BWXT Idaho, LLC (current primary management and operating contractor) and its subcontractors participate in VPP and ISMS for the safety of their employees. This HASP includes all elements of both systems. The five key elements of VPP and ISMS and their corresponding HASP sections are as follows:

Voluntary Protection Program	Integrated Safety Management System	Health and Safety Plan Section
	Define work scope	Section 1
Work site analysis	Analyze hazards	Sections 2, 3, 5, and 8
Hazard prevention and control	Develop and implement controls	Sections 2, 3, 4, 5, 7, 10, and 11
Safety and health training	Perform within work controls	Section 6
Employee involvement	Perform work within controls	Sections 2, 3, and 4
Management leadership	Provide feedback and improvement	Sections 6 and 9

4.2 General Safe Work Practices

The following practices are mandatory for all project personnel in order to reduce the possibility of accidents and injuries. In addition, all visitors permitted to enter Track 2 work areas must follow these practices. Failure to do so could result in permanent removal from the project and other disciplinary actions.

- Limit work area access to authorized people only.
- All personnel have the authority to STOP WORK in accordance with MCP-553.
- Do not eat, drink, chew gum or tobacco, smoke, apply sunscreen, or do anything else that increases the probability of hand-to-mouth transfer and ingestion of materials in project work areas. Designated eating and drinking areas will be established.
- Comply with all safety signs, tags, barriers, and color codes in accordance with PRD-5117, “Accident Prevention Signs, Tags, Barriers, and Color Codes.”
- Be alert for dangerous situations, strong or irritating odors, airborne dust or vapor, and spills. Report all dangerous situations to the field supervisor or HSO.
- Avoid direct contact with hazardous materials or radiological contamination. Do not walk through spills or other areas of known contamination, and avoid kneeling, leaning, or sitting on equipment or surfaces that might be contaminated.
- Be familiar with the physical characteristics of each project site, including, but not limited to, the following:
 - Prevailing wind direction
 - Location of fellow personnel, equipment, and vehicles
 - Communications at the project site and with the nearest facility
 - Major roads and means of access to and from the project site
 - Location of emergency equipment
 - Warning devices and alarms for the area or facility
 - Capabilities and location of the nearest emergency assistance.
- Report all broken skin or open wounds to the HSO. An Occupational Medical Program (OMP) physician must examine all wounds to determine the nature and extent of the injury. If you have a wound and are required to enter a radiological contamination area, a RadCon supervisor will determine whether the wound can be bandaged adequately in accordance with Article 542 of the *Radiological Control Manual* (PRD-183) and the RWP.
- Ground-fault protection will be provided whenever temporary wiring (i.e., an extension cord) is used. Cords are to be rated in accordance with PRD-5099, “Electrical Safety.”

- Keep all ignition sources at least 50 ft from explosive or flammable environments.
- Follow all safety and radiological precautions and limitations in technical procedures, and follow requirements identified in project-specific work packages.

4.3 Subcontractor Responsibilities

Subcontractors are responsible for meeting all applicable INEEL MCP, PRD, VPP, and ISMS flow-down requirements such as those listed on the completed INEEL Form 540.10, “Checklist for Subcontractor Requirements for On-Site Nonconstruction Work”; in the *Subcontractor Requirements Manual* (TOC-59); and in the contract general and special conditions. Additionally, subcontractors are expected to take a proactive role in hazard identification and mitigation while doing project tasks, and subcontractors must report unmitigated hazards to the appropriate project point of contact after taking mitigative actions within the documented work controls.

4.4 Buddy System

The two-person, or buddy, system will be used during project tasks. The buddy system requires each employee to assess and monitor his or her buddy’s mental and physical well-being during the course of the operation. A buddy must be able to do the following:

- Provide assistance if required.
- Verify the integrity of PPE.
- Observe his or her buddy for signs and symptoms of heat stress, cold stress, or contaminant exposure.
- Notify other personnel in the area if emergency help is needed.
- Carry out additional responsibilities as assigned by the site supervisor.

5. PERSONAL PROTECTIVE EQUIPMENT

The purpose of PPE is to shield or isolate personnel from radiological, nonradiological, physical, and biological hazards that cannot be eliminated through engineering or other controls. It is important to realize that no single PPE ensemble can protect against all hazards under all conditions and that proper work practices and adequate training will augment PPE to provide the greatest level of protection to workers. This section guides the selection and use of PPE to be worn for project tasks. Contingencies for upgrading and downgrading PPE are also covered.

PPE is generally divided into two broad categories: (a) respiratory protection equipment and (b) personal protective clothing. Both of these categories are incorporated into the standard four levels of protection (Levels A, B, C, and D).

The type of PPE will be selected, issued, used, and maintained in accordance with PRD-5121, "Personal Protective Equipment." Selection of the proper PPE is based on the following considerations:

- Specific conditions and nature of the tasks
- Specific site contaminants and routes of entry
- Physical form and chemical characteristics of hazardous materials
- Toxicity of hazardous materials that could be encountered
- Duration and intensity of exposure (acute or chronic)
- Compatibility of chemical(s) with PPE materials and potential for degradation or breakthrough
- Environmental conditions (e.g., humidity, heat, cold, rain)
- The hazard analysis described in Section 2 of this HASP.

Based on the criteria listed above, Level D or modified Level D PPE will be the primary PPE level for Track 2 activities. Though not anticipated, a full- or half-face respirator fitted with a particulate filter or combination particulate/chemical cartridge (Level C) might also be necessary, as determined by the IH, RCT, or HSO based on monitoring results and RWP requirements.

5.1 Personal Protective Equipment Levels

The following subsections provide general guidance on typical HAZWOPER levels of PPE. Project operational activities will be evaluated continually to determine the most appropriate PPE during the course of the project. Additional PPE requirements may be specified in JSAs, RWP, and SWP.

Table 5-1 lists the level of PPE anticipated for each Track 2 project site. These PPE ensemble requirements will be determined by assigned project health and safety professionals in consultation with RadCon personnel based on the hazards present, monitoring results, and nature of operational tasks. PPE levels will be modified based on changing operational conditions and monitoring results. Such modifications are used routinely to maximize efficiency and meet operational-specific needs without compromising personnel health and safety.

Table 5-1. PPE levels for Track 2 sites and activities.

Track 2 Site	Primary PPE Level	Upgrade PPE Level	Modifications
CFA-10A	Modified Level D	Level C (contingency if airborne action level is reached)	Outer chemical-resistant gloves when collecting samples, decontaminating sampling equipment, or contact with soil is likely. Outer coated coveralls (Tyvek or equivalent) when doing sampling-equipment decontamination tasks.
MISC-33 TRA-60 TRA-63	Modified Level D	Level C (contingency if airborne action level is reached or as required by RWP)	Outer chemical-resistant gloves when collecting samples, decontaminating sampling equipment, or contact with soil is likely. Outer coated coveralls (Tyvek or equivalent) when sampling MISC-33 resins, handling drilling augers or core barrels, or decontaminating sampling/drilling equipment. Anti-C clothing based on RWP requirement (TRA-63).

5.1.1 Level D Personal Protective Equipment

Level D PPE will only be selected for protective clothing and not for project tasks with respiratory or skin absorption hazards that necessitate whole-body protection. Level D PPE provides no protection against airborne chemical hazards; it is used for protection against surface contamination and physical hazards. Level D or modified Level D PPE will be the primary PPE level for the Track 2 sites unless additional hazards are encountered, monitoring indicates exposure levels exceed the action limits, or the RWP requires otherwise.

5.1.2 Level C Personal Protective Equipment

Level C PPE will be worn when a thorough characterization of the task site chemical or radiological contaminants indicates that personnel are protected from airborne exposures by wearing an air-purifying respirator with the appropriate cartridges, no oxygen-deficient environments exist (less than 19.5% at sea level), and no conditions that pose IDLH exist.

5.2 Level D Personal Protective Equipment

Level D PPE is appropriate for use during activities when personnel are unlikely to be exposed to airborne explosive materials at concentrations above the action levels (defined in Table 5-1).

The Level D PPE required for WAG 10 Track 2 tasks addressed under this HASP consists of the following:

- Coveralls or street clothes
- Hard hat (where overhead or equipment hazards exist) (meeting ANSI Z89.1 requirements)

- Safety glasses with side shields (meeting ANSI Z87.1-2003 requirements)
- Sturdy leather boots with steel- or composite-reinforced safety toes (meeting ANSI Z41 requirements)
- Leather gloves for material handling (such as drill augers and tools)
- Hearing protection during drilling or other activities with noise levels exceeding 84 dBA.

Modified Level D upgrade can include any of the following:

- Chemical-resistant gloves (IH to determine material based on chemical encountered)
- Chemical-resistant outer boot or boot covers
- Chemical-resistant outer coveralls (such as Tyvek coveralls—IH to determine material based on chemical encountered)
- Anti-contamination (anti-C) clothing (based on RWP requirements)
- Specialized protective clothing for individual tasks (such as chemical apron or a safety face shield).

5.3 Level C Personal Protective Equipment

Level C PPE might be required based on action levels for airborne contaminants (defined in Table 5-1). Level C PPE upgrades that might be implemented by the IH, RCT, or HSO include modified Level D PPE additions, such as the following:

- Air-purifying respiratory protection with a high-efficiency particulate air (HEPA) filter cartridge (half- or full-face depending on the contaminant concentration or RWP) (IH might specify chemical/HEPA combination cartridge based on contaminants at site)

Note: If mercury vapor concentrations reach the action limit at the TRA-60 site, then an MSA Mersorb™ (or equivalent) cartridge with an end-of-service-life indicator will be required. The IH will determine the cartridge change-out schedule, based on airborne concentrations and the nature of activities, in accordance with 29 CFR 1910.134. The respirator cartridge change-out schedule will be documented on the SWP.

- Double set of chemical-resistant gloves (such as Tyvek gloves—IH to determine material based on chemical encountered)
- Double set of chemical-resistant coveralls (IH to determine material based on chemical encountered)
- Double anti-C clothing (based on RWP requirements).

Personnel required to wear respirators will complete training and be fit-tested before being assigned a respirator in accordance with the training and documentation requirements in Section 6. MCP-2726, “Respiratory Protection,” will be followed for respirator use, emergency use, storage, cleaning, and maintenance.

If radiological contamination is encountered at levels requiring the use of anti-C clothing, a job-specific RWP will be developed and MCP-432, “Radiological Personal Protective Equipment,” will be followed.

The project HSO, in consultation with the project IH (and RadCon personnel, as applicable), will be responsible for determining when to upgrade or downgrade PPE requirements.

Note: Personnel must inspect all PPE before donning it. Items found to be defective, or that become unserviceable during use, will be doffed and disposed of in accordance with posted procedures and placed in the appropriate waste stream.

5.4 Personal Protective Clothing Upgrading and Downgrading

The assigned HSO, IH, and, as applicable, RadCon personnel will be responsible for determining when to upgrade or downgrade PPE requirements. Upgrading or downgrading PPE based on changing operational conditions (e.g., equipment, waste types, and location of tasks) is normal. If changing conditions are encountered, work-control documents (e.g., work order, RWP, and JSA) might need to be revised to reflect these changes or augmented by an SWP. Additional reasons for upgrading or downgrading are listed in the following subsections.

5.4.1 Upgrading Criteria for Personal Protective Equipment

The level of PPE required will be upgraded for the following reasons, and work will halt until PPE upgrading has been completed:

- New, unstable, or unpredictable hazards or exposures
- Temporary loss or failure of any engineering controls
- Contaminants that present difficulty in monitoring or detecting
- Known or suspected presence of skin absorption hazards
- Newly identified source or potentially increasing concentration of respiratory hazard(s)
- Operational activity change that could result in increased contact with contaminants or the triggering any of the criteria listed above.

5.4.2 Downgrading Criteria

The level of PPE will be downgraded under the following conditions:

- Elimination of hazard(s) or completion of operational task(s) requiring specific PPE
- Implementation of new engineering or administrative controls that eliminate or significantly mitigate hazard(s)
- Sampling information or monitoring data showing contaminant levels to be stable and lower than initial or estimated levels
- Elimination of potential skin absorption or contact hazards.

5.5 Inspection of Personal Protective Equipment

PPE ensemble components must be inspected before and during use in accordance with PRD-5121. Once PPE is donned, self-inspection will be the principal form of inspection. If PPE is damaged or degradation or permeation is suspected, the individual wearing the PPE will inform others of the problem and proceed directly to the work area exit point. After required surveys, PPE will be doffed and replaced. In addition, decontamination or replacement of PPE will be required if it becomes grossly contaminated or presents a potential source for the spread of such contamination.

Table 5-2 is a general inspection checklist for common PPE items. Some PPE ensemble items listed might not be required for project tasks. When specialized protective clothing or respiratory protection is used, the manufacturer's inspection requirements in conjunction with regulatory or industry inspection practices will be followed. The assigned project IH, safety professional, or RCT should be consulted about specific PPE inspection criteria.

Table 5-2. Inspection checklist for PPE.

PPE Item	Inspection
Level C and D clothing	<p>Before use:</p> <p>Visually inspect for imperfect seams, non-uniform coatings, and tears.</p> <p>Hold PPE up to the light, and inspect for pinholes, deterioration, stiffness, and cracks.</p> <p>While wearing in the work zone:</p> <p>Inspect for evidence of chemical attack such as discoloration, swelling, softening, and material degradation.</p> <p>Inspect for tears, punctures, and zipper or seam damage.</p> <p>Check all taped areas to ensure they are still intact.</p>
Gloves	<p>Before use:</p> <p><i>Rubber gloves.</i> Pressurize to check for pinholes: blow in the glove, and then roll until air is trapped, and inspect. No air should escape.</p> <p><i>Leather gloves.</i> Inspect seams and glove surface for tears and splitting, and verify no permeation has taken place.</p>
Respirators (half- or full-facepiece air-purifying)	<p>Before use:</p> <ul style="list-style-type: none"> • Verify that respirator is within 3 yr of shelf life. • Check condition of the facepiece, head straps, valves, connecting lines, fittings, and connections for tightness. • Check cartridge to ensure proper type or combination is being used for the atmospheric hazards that are likely to be encountered, and inspect threads and O-rings for pliability, deterioration, and distortion.

6. PERSONNEL TRAINING

INEEL personnel who will work at the WAG 10 Track 2 investigation sites will receive training specified in 29 CFR 1910.120 and applicable INEEL manuals. Table 6-1 summarizes the project-specific training requirements. Modifications to training requirements listed in Table 6-1 might be necessary based on changing field conditions or specific facility requirements. Changes to the requirements listed in Table 6-1 must be approved by the HSO, with concurrence from the field supervisor, project manager, RCT, and IH, as applicable. Because these changes are administrative in nature, they should be based on site-specific conditions and will generally be considered minor, as defined by instructions on Form 412.11, “Document Management Control Systems (DMCS) Document Action Request (DAR).”

6.1 General Training

Project personnel are responsible for meeting training requirements, including applicable refresher training. Evidence of training will be maintained at the project site, at the field administrative location, or electronically (e.g., Training Records and Information Network [TRAIN] [INEEL 2001]). Non-field team personnel and visitors must prove they have met the training requirements for the site they wish to access before being allowed into a work area. As a minimum, personnel who access project locations must receive a HAZWOPER site-specific briefing, wear PPE, and prove they have completed INEEL computer-based PPE training (00TRN288, “Personal Protective Equipment”), or equivalent, in accordance with 29 CFR 1910.132, “Personal Protective Equipment.”

A supervisor who has completed the 8-hr HAZWOPER supervisor training will monitor each newly 24- or 40-hr trained worker to meet the criterion for 1 or 3 days of supervised field experience, respectively, in accordance with 29 CFR 1926.120(e). After the supervised field experience period, the supervisor will complete Form 361.47, “HAZWOPER Supervised Field Experience Verification,” or equivalent, to document the supervised field experience.

Note 1: Supervised field experience is required only if personnel have not completed this training at another CERCLA (42 USC § 9601) site (documented) or if they are upgrading from 24- to 40-hr HAZWOPER training. As evidence of training, a copy of the training record must be available electronically in TRAIN or at the project site.

Note 2: Completed supervised field experience training forms (Form 361.47 or equivalent) should be submitted to the project training coordinator for inclusion in TRAIN.

6.2 Project-Specific Training

Before work at the project site begins, field team members will receive project-specific HASP training from the field supervisor (or designee). This training will consist of a complete review of the following with time for discussion and questions: (a) a controlled copy of the project HASP, attachments, and document action requests; (b) the applicable JSA, SWP, and RWP (if required); (c) work orders; and (d) other applicable work-control and -authorization documents. Project-specific training can be conducted in conjunction with, or separately from, the required formal pre-job briefing (MCP-3003).

Table 6-1. Required project-specific training.

Required Training	Field Supervisor	HSO, RCT	Other Field Team Members	Access into the Designated or Controlled Work Area
HAZWOPER site orientation ^a				Yes
40-hr HAZWOPER ^b - operations	Yes	Yes	c	c
24-hour HAZWOPER ^a - operations			c	c
8-hr HAZWOPER supervisor	Yes			
Project-specific health and safety plan training ^d	Yes	Yes	Yes	Yes
Fire extinguisher training (or equivalent)	Yes	Yes	e	
Cardiopulmonary resuscitation (CPR), medic first-aid	Yes	Yes	e	
PPE use training (00TRN288 or equivalent)	Yes	Yes	Yes	Yes
Hazardous Material (HAZMAT) Employee General Awareness Training	f	f	f	
Radiological Worker I or II	g	g	g	g
Area Warden Training ^h	Yes			
Respirator training (contingency only)	i	i	i	j

Note: Shaded fields indicate specific training is not required or applicable.

a. Minimum training for access to site. Includes project-specific hazards communications (29 CFR 1910.120), site-access and security, decontamination, and emergency response actions, as required by 29 CFR 1910.120(e).

b. Includes 8-hr HAZWOPER refresher training, as applicable, and supervised field experience as follows: 40-hr HAZWOPER = 24-hr supervised field experience and 24-hr HAZWOPER.

c. 24- or 40-hr HAZWOPER training requirement will be determined by the HSO based on the nature of the project tasks and the potential for exposure to contaminants or safety hazards in accordance with 29 CFR 1910.120(e).

d. Training will include all required 29 CFR 1910.120(e) HASP training elements.

e. Field supervisor and HSO will determine appropriate number of personnel requiring training.

f. If identified as “HAZMAT” employee (i.e., anyone who directly affects hazardous material transportation safety by handling, packaging, labeling, loading, unloading, moving, driving, etc. [per 49 CFR 171.8]).

g. If entry into radiological control areas is required, the Radiological Worker Training requirement will be in accordance with the RWP.

h. Field supervisor and alternate, as required by TRA facility for TRA-60 and -63 sites

i. Only required if entering area requiring respiratory protection.

j. Non-field workers will not be allowed into areas requiring respiratory protection.

At or before the time of project-specific HASP training, personnel training records will be checked and verified to be current and complete for the training requirements shown in Table 6-1 (if not already verified). After the field supervisor (or designee) has completed the site-specific training, personnel will sign Form 361.25, “Group Read and Sign Training Roster,” or equivalent, indicating that they have received this training, understand the project tasks, understand the associated hazards and mitigations, and agree to follow all HASP and other applicable work-control and safety requirements. Form 361.25 (or equivalent) training forms are available on the INEEL Intranet under “Forms.”

6.3 Plan of the Day Meeting, Feedback, and Lessons Learned

A daily plan-of-the-day (POD) or equivalent daily meeting will be conducted by the field supervisor or designee. During this meeting, daily tasks are to be outlined; hazards identified; hazard controls, mitigation, and work zones established; PPE requirements discussed; and feedback from personnel solicited. At the end of this meeting, any new work-control documents will be reviewed and signed (e.g., SWP, JSA, or RWP).

Note: If a formal MCP-3003 pre-job briefing is conducted during the work shift, a POD is not required.

Particular emphasis will be placed on lessons learned from the previous workday’s activities and how tasks can be completed in the safest, most efficient manner. All personnel are encouraged to contribute ideas to enhance worker safety and mitigate exposures to hazards at the project sites. This POD will be conducted as an informal meeting, and no documentation beyond noting the POD in the field-supervisor or sampling logbook is required.

Health and safety topic-specific training or safety meetings can also be held during the course of the project to reinforce key safety topics. These meetings can be conducted by assigned project health and safety professionals or any field team member and should be held in conjunction with the POD. Credit for a safety meeting can be received for such topic-specific training if a completed INEEL Form 361.24, “Tailgate Attendance Roster,” or equivalent, is submitted to the appropriate training coordinator for entry into TRAIN.

7. SITE CONTROL AND SECURITY

Site control and security will be maintained at the project locations during all activities to prevent unauthorized personnel from entering the work area. Entry into and exit from these areas will be controlled through the appropriate use of barriers, signs, and other measures in accordance with PRD-5117, “Accident Prevention Signs, Tags, Barriers, and Color Codes.”

The field supervisor and HSO should be consulted regarding equipment layout at the project site to minimize hazards from equipment. Equipment layout at the project site should reflect the nature of the hazard present and be mitigated through the use of engineering controls (barriers, guards, isolation), administrative controls (roped-off restricted areas or controlled access), and qualifications of operators and those helping in the operation of the equipment, when required.

Good housekeeping will be maintained at all times during the course of the project. This includes maintaining working and walking surfaces to minimize tripping hazards, stacking or storing materials and equipment in a central location when not in use, and regularly cleaning up debris and trash at the project site.

Based on the nature of the project tasks, a graded approach with two types of site control designations (work areas) will be used to meet HAZWOPER site control requirements. These work areas will be based on the potential hazards, complexity of work tasks, duration of project tasks, and location and number of non-project personnel near the project area. In addition, radiological control areas will be established in accordance with RWP requirements. The two types of work areas are:

- Designated work areas (DWAs) (established for low-hazard routine tasks)
- Controlled work areas (CWAs) (established for higher-hazard tasks).

Figure 7-1 shows the layout of a DWA that will be established at one of the Track 2 sites. Figure 7-2 illustrates a generalized configuration of a CWA. These figures represent the general configuration of work zones and are not intended to provide an exact layout or configuration of all equipment or zone sizes. Several factors could result in changes to zone configurations, sizes, and locations. These factors include the site being investigated, project tasks being conducted, site monitoring data, and changing wind direction. Additionally, entrance and egress points could change based on these same factors. Changes in zone configuration and size will be decided by the HSO in conjunction with the IH, RCT, and field supervisor (as appropriate).

The main differences between the work areas will be the size of the area, method of delineation, and postings, as determined by the activity being conducted and associated hazards. The field supervisor, in conjunction with the HSO and RadCon personnel (when radiological concerns exist), will decide the work area to be established.

Personnel not directly involved with project activities will be excluded from these work areas. Visitors may be admitted into work areas if they are on official business, have received site-specific training or orientation (Table 6-1) by the field supervisor or designee, have documented evidence (training record or cards) for all site-specific training requirements for the site they wish to access, and wear required PPE for the area.

Note: To minimize risks to workers and visitors, visitors cannot enter controlled work areas during certain tasks (such as heavy equipment or drilling operations). The field supervisor, in consultation with the HSO and RadCon personnel (for radiological areas), will decide whether a visitor can enter a controlled work area.

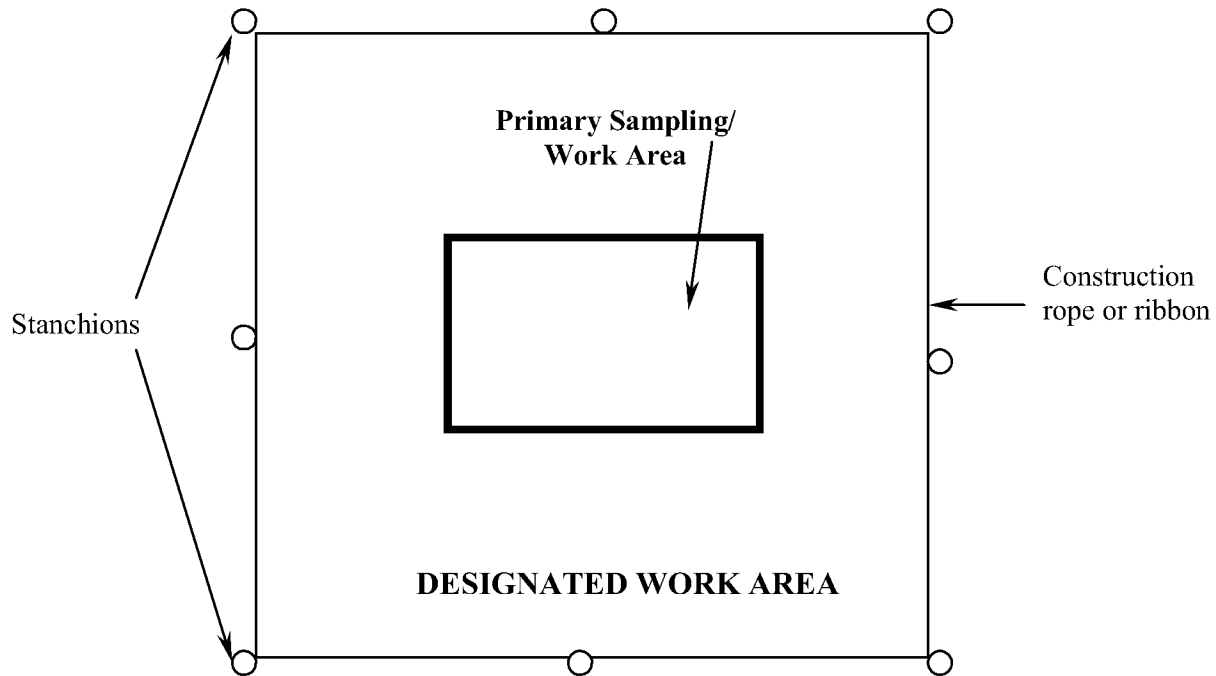
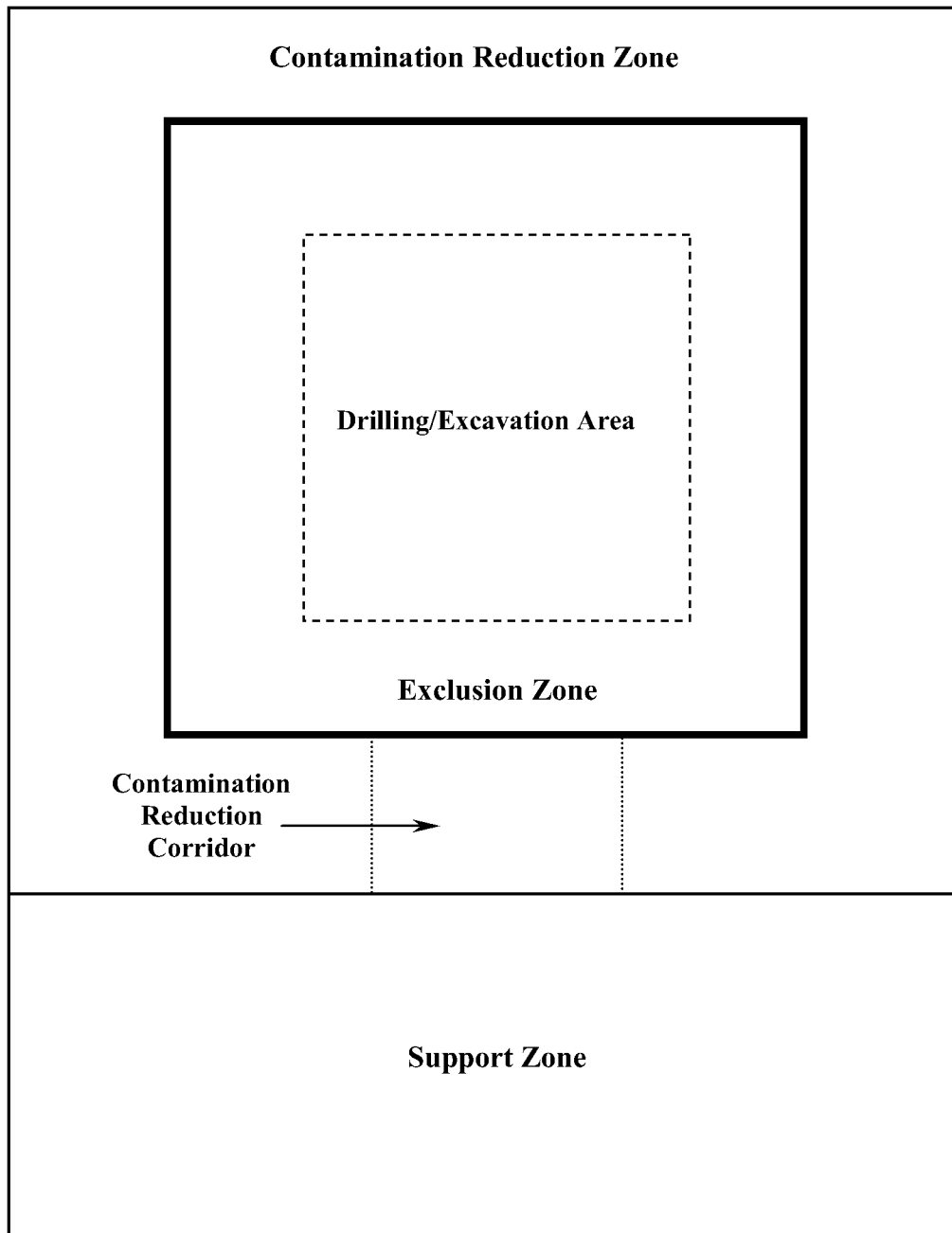


Figure 7-1. Example configurations of a DWA for the WAG 10 Track 2 project sites.

Potential hazards will be evaluated when delineating each work area location and size. Barriers (e.g., rope, cones, and printed ribbon) can be used for delineation and demarcation. Where warranted, designated traffic routes can also be established. These areas will also be posted to prevent inadvertent entry by unauthorized personnel.

7.1 Designated Work Area

DWAs will be used at Track 2 sites with low hazards (i.e., no significant hazards and no heavy equipment in use) to control access to the site area where sampling is occurring while allowing mobility within the site. The DWAs will consist of the area immediately around the sampling location, including all equipment decontamination areas. The boundary of the DWA will typically be marked with cones or stanchions and delineated with rope or ribbon or include other demarcation. People who enter the DWA will wear the appropriate level of PPE for the degree and type of hazards present, as listed in Section 5. In accordance with PRD-5117, DWAs will be delineated and posted with the appropriate signage based on the hazard being controlled. Visitors without the appropriate training or PPE for the DWA, or as determined by the field supervisor, will be restricted from entering the DWA.



Not to scale

Figure 7-2. Example configuration of a CWA for the WAG 10 Track 2 project sites.

7.2 Controlled Work Area

CWAs will be used when exposure to site contaminants might extend beyond the immediate sampling area or in areas where heavy equipment is in use. The CWAs will be large enough to accommodate the equipment to be used, accommodate the tasks to be conducted, and prevent personnel not assigned to the project task and visitors from being exposed to hazards associated with the project tasks. CWAs will be established when a more restrictive area is required based on increased hazards. The boundary of a CWA can be marked with a combination of stanchions or posts, delineated with rope or ribbon, and include warning signs or other demarcation. Only the minimum number of personnel needed to do the project tasks safely will be allowed in the CWA. The CWA is a controlled area during all project tasks, and an entry and exit points will be established at the periphery of the CWA to regulate the flow of personnel and equipment. People who enter the CWA will wear the appropriate level of PPE for the degree and type of hazards present, as listed in Section 5.

7.3 Radiological Control Areas

Requirements of MCP-187, "Posting Radiological Control Areas," must be met when posting and controlling access to radiological control areas at the project sites. RadCon personnel at project sites will establish radiological control areas as required. These may include the following:

- Radiological buffer area
- Radiation area
- Radioactive material area
- Underground radioactive material area.

7.4 Site Security

INEEL security forces will provide site security at all areas. Personnel, equipment, and vehicles must meet additional access requirements at the TRA-60 and -63 sites. Where controlled work areas are established, the project site will be delineated with rope and adequate signage to prevent unauthorized entry.

Note: Signs are routinely lost because of high winds and will be replaced as soon as possible the next working day after discovery.

7.5 Wash Facilities and Designated Eating Areas

Workers who do not use good hygiene at the project site could ingest hazardous substances. Each worker should wash his or her hands, face, and other exposed skin thoroughly after completing work and before smoking, eating, drinking, and chewing gum or tobacco. Smoking, chewing, eating, and drinking are not allowed inside the DWA or CWA. A designated wash facility, including a bathroom(s) and an area with a hand washing station, will be established for each site and discussed in the pre-job briefing. Given the location of the CFA WAG 10 sites, the CFA cafeteria (CFA-1612) will be the designated eating area, wash facility, and bathrooms. TRA locations will be determined by the field supervisor in conjunction with the HSO and communicated during the POD.

7.6 Designated Smoking Area

Smoking will be permitted only in designated smoking areas, and personnel will comply with all INEEL smoking policies, including disposing of smoking materials in the proper receptacle. The field supervisor will be the single point of contact for establishing any smoking area. Smoking areas might not be permitted at certain times of the year because of high or extreme fire danger.

8. OCCUPATIONAL MEDICAL SURVEILLANCE

Project personnel will participate in the INEEL occupational medical surveillance program (or equivalent subcontractor program), as required by DOE O 440.1, “Worker Protection Management for DOE Federal and Contractor Employees,” and 29 CFR 1910.120. When required, medical surveillance examinations will be provided before assignment, annually, and after HAZWOPER duties or employment are terminated. Medical surveillance is required for the following personnel:

- Personnel who are, or might be, exposed to hazardous substances at or above the OSHA PEL, substance-specific action level, or published exposure limits, without regard to respirator use, for 30 or more days per year
- Personnel who are injured, become ill, or develop signs or symptoms because of possible overexposure involving hazardous substances or agents during an emergency response or hazardous waste operation
- Personnel who wear a respirator for 30 days or more a year or as required by 29 CFR 1910.134
- Personnel assigned to a HAZMAT or emergency response team.

Personnel who wear a respirator while doing their job, or who are required to take respirator training to do their duties under this plan, must participate in the medical evaluation program for respirator use at least annually, as required by MCP-2726, “Respiratory Protection.”

A single copy of this HASP, job hazard analysis requirements, required PPE, confined space entry requirements (as applicable), and other exposure-related information will be made available on request to the INEEL OMP physician (and subcontractor physicians) conducting medical surveillance for personnel assigned to this project. Exposure monitoring results and hazard information furnished to the physician will be supplemented or updated annually as long as the worker is required to meet a hazardous waste and material employee medical surveillance requirement.

A documented medical clearance (e.g., a physician’s written opinion) will be provided to the worker and line management stating whether the worker has any medical conditions that would place him or her at increased risk of health impairment from working in hazardous waste operations, emergency response operations, respirator- and other PPE-required-use areas, and confined spaces, as applicable. The physician can restrict the amount and type of work performed or PPE that can be worn by a worker.

Personnel are responsible for communicating any work or medical restrictions to their supervisor so that work assignments can be modified if necessary. During the pre-job briefing, the supervisor should ask workers if they have any work restrictions, but the employee is responsible for informing the supervisor of any work or medical restrictions.

Note: Managers, supervisors, and foremen have access to current personnel medical restrictions, certifications, and surveillances through the OMP database on the Safety and Health home page or OMP reports link: <http://webhome4/OMPReports/>. This allows management to review medical restrictions, surveillances, and certifications before assigning tasks to employees.

8.1 Subcontractor Workers

Subcontractor project personnel will participate in a subcontractor medical surveillance program that satisfies the requirements of 29 CFR 1910.120. When medical surveillance is required, this program must make medical examinations available before assignment, annually, and after hazardous waste duties are terminated, as stated above. The physician's written opinion, as defined by 29 CFR 1910.120(f)(7), will list work restrictions and document whether the subcontractor personnel are fit for duty.

Medical data from the subcontractor employee's private physician, collected pursuant to hazardous material worker qualification, will be made available to the INEEL OMP physicians upon request.

8.2 Injuries on the Site

INEEL policy states that an INEEL OMP physician will examine all injured personnel, including the following:

- A worker injured at the project site
- A worker experiencing signs and symptoms consistent with exposure to a hazardous material
- A worker believed to have been exposed to a hazardous substance, physical agent, or radiological hazard in excess of allowable limits during the course of a project at the INEEL.

Note: In the event of an illness or injury, the decision whether to provide first aid and transport the victim to the nearest medical facility or immediately request an ambulance and continue to provide first aid should be based on the nature of the injury or illness and the possibility that transporting the victim might cause further injury or harm. Most likely, the person making this decision will only be trained to the medic first/CPR level and should contact the CFA medical facility at 777 or 526-1515 for further guidance if there is any question about the extent of injury or the potential to cause further harm by movement of the victim.

In the event of a known or suspected injury or illness caused by exposure to a hazardous substance or physical or radiological agent, the worker will be transported to the nearest INEEL medical facility for evaluation and treatment, as necessary. The HSO and field supervisor are responsible for obtaining as much of the following information as possible to accompany the worker to the medical facility:

- Worker name, job title, work (site) location, and supervisor's name and phone number
- Nature of the incident and injury or exposure and associated signs or symptoms of exposure
- Substance, physical agent, or radiological agent exposed to (known or suspected) and material safety data sheet, if available
- First aid or other measures taken
- Exact location of the worker, route to that location, and potential hazards
- Locations, dates, and results of any relevant personal or area exposure monitoring or sampling
- List of PPE worn during this work (e.g., type of respirator and cartridge used).

The treating or examining physician will evaluate injured workers in accordance with the signs and symptoms observed, hazard involved, exposure level, and specific medical surveillance requirements established by the OMP director in compliance with 29 CFR 1910.120.

Note: Injured subcontractor employees will be taken to the closest INEEL medical facility (if doing so will cause no further injury or harm) or transported by INEEL ambulance to have an injury stabilized before transport to the subcontractor's treating physician or off-site medical facility.

The proper facility representative will be notified if an injury or illness occurs within a facility boundary. The CFA-10A and MISC-33 sites are outside primary facility area boundaries and, thus, fall under the jurisdiction of the CFA site area director (SAD). The TRA-60 and -63 sites fall under the jurisdiction of the TRA SAD. The emergency contact for the facility will be announced during the pre-job briefing or POD. As soon as possible after an injured employee has been transported to the INEEL medical facility, the field supervisor or designee will notify the additional project personnel indicated in Section 10.

8.3 Substance-Specific Medical Surveillance

Lead is the only identified contaminant of concern with a substance-specific standard (listed in 29 CFR 1910, Subpart Z). If airborne lead levels exceed the 29 CFR 1926.62 action level of $30 \mu\text{g}/\text{m}^3$, then mandatory medical surveillance will be instituted in accordance with PRD-2105, "Lead." To justify the determination for no medical surveillance being required, the project IH is responsible for completing a negative initial determination in accordance with 29 CFR 1926.62(d) before field activities begin at the MISC-33, CFA-10A, and TRA-60 sites.

The project IH will evaluate personal exposure levels to mercury vapor at site TRA-60 to determine if additional medical monitoring (baseline and post-project biological monitoring) is required.

If new contaminants of concern are identified during the course of project tasks, exposures will be evaluated and quantified to determine if a substance-specific standard and associated medical surveillance requirements apply. If regulatory-mandated, substance-specific standard action levels are triggered, affected personnel will be enrolled in applicable substance-specific medical surveillance programs.

9. KEY SITE PERSONNEL RESPONSIBILITIES

The organizational structure for this project reflects the resources and expertise needed to do the work while minimizing risks to worker health and safety, the environment, and the public. Key project positions and lines of responsibility and communication are shown in Figure 9-1 and are limited to the field level with facility communication and resources listed. The organization chart in Figure 9-1 is not all-inclusive but shows the structure for key resources assigned to complete project tasks. The “Project Execution Plan for the Balance of INEEL Cleanup Project” (Plan [PLN]-694) details roles and responsibilities for Balance of INEEL Cleanup (BIC) personnel above the project manager level. The following text outlines the responsibilities of key site personnel.

9.1 Environmental Restoration Program and Project Management

The following positions and associated roles and responsibilities are described in the project execution plan (PLN-694):

- BIC manager of projects
- BIC Safety, Health, and Quality Assurance manager
- Long-Term Stewardship (LTS) Subproject Manager
- Project engineer
- Environmental Compliance support
- Quality engineer.

9.1.1 WAG 10 Task Lead

The WAG 10 task lead is responsible for developing and managing the project and coordinating BIC project operations. The project manager ensures that operations and FFA/CO (DOE-ID 1991) compliance support, surveillance, and monitoring activities are conducted in accordance with INEEL MCPs and PRDs and with applicable OSHA, EPA, DOE, U.S. Department of Transportation, and State of Idaho requirements. The task lead also ensures that tasks comply with PLN-694 and this HASP. The task lead is responsible for the overall work scope, schedule, and budget for this project and reports to the LTS subcontract manager.

9.1.2 Environmental Compliance Support

Environmental Compliance support personnel oversee monitoring and ensure compliance with DOE orders, EPA regulations, and other regulations related to the effects of site activities on the environment. These personnel also support surveillance of hazardous waste storage and transportation as well as control of surface water/storm water runoff.

9.2 Task Site Responsibilities

Figure 9-1 is the field task site organization chart showing interfaces with the respective facility SADs and support organizations. The position descriptions that follow are limited to the field personnel. Descriptions of the SAD and facility responsibilities can be found in Program Description Document (PDD)-1005, "Program Description Document, Site Operations Manual."

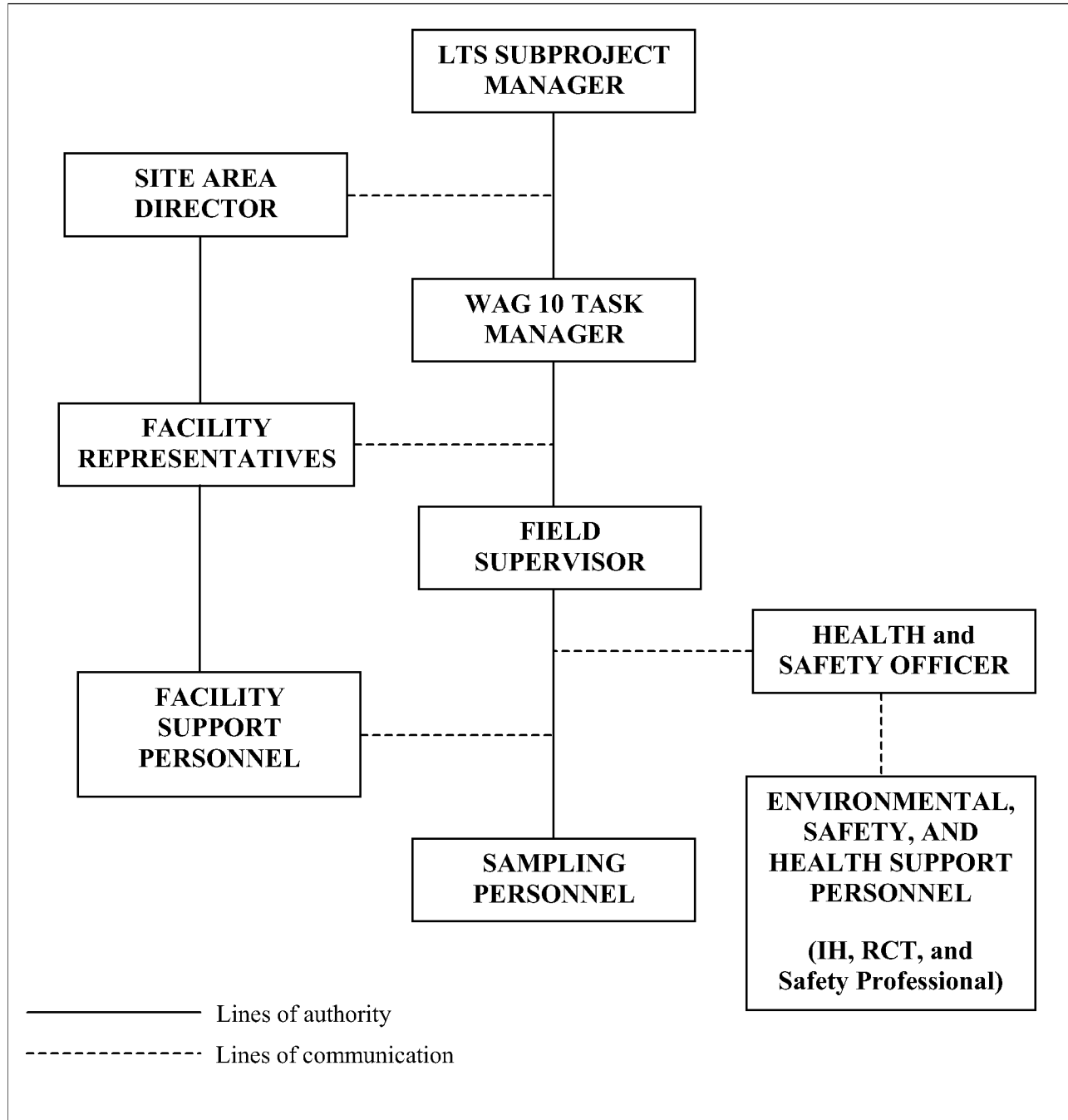


Figure 9-1. Organization chart.

9.2.1 Field Supervisor

The field supervisor is in charge of all field work and is the supervisor for personnel assigned to the project sites. The field supervisor works to accomplish day-to-day operations at the work site; identify and obtain additional facility resources needed at the site; interact with the facility representatives to schedule activities; and communicate with the IH, safety professional, RCT, and HSO on matters regarding health and safety. The field supervisor must be informed about any health and safety issues that arise at the work site and can stop work at the site if an unsafe condition exists. The field supervisor is responsible for conducting the POD meetings.

The field supervisor is ultimately responsible for all work package, procedural, and safety compliance at each site. The field supervisor must be onsite during all field operations or, if required to leave the site during operations, delegate a qualified (training and experience) alternate. If the field supervisor responsibilities are delegated to an alternate, the alternate field supervisor's identity will be communicated to all project personnel.

9.2.2 Health and Safety Officer

The HSO is the primary contact for all health and safety issues at the task site. The HSO advises the field supervisor on all aspects of health and safety and is authorized to stop work at the task site if any operation threatens health or safety. The HSO is authorized to verify compliance with this HASP, conduct inspections and self-assessments, require and monitor corrective actions, and monitor decontamination procedures as appropriate. The safety, health, and quality assurance professionals at the task site (e.g., safety professional, IH, and facility representative) support the HSO.

Persons assigned as HSOs or alternate HSOs must be qualified (in accordance with the definition in 29 CFR 1910.120) to recognize and evaluate hazards and will be given the authority to take or direct actions to ensure that workers are protected. Due to explosive ordnance disposal training and experience requirements, the field supervisor will typically also be the project HSO.

If the HSO has to leave the site during field operations, the HSO will appoint an alternate individual to fulfill this role, and that person's identity will be communicated to project personnel. If no other personnel on the job site meet the training and experience requirements for the HSO alternate, work will cease until a qualified HSO is present.

9.2.3 Field Sampling Personnel

The field sampling personnel are responsible for collecting, packaging, and shipping samples from the Track 2 sites in accordance with the *Field Sampling Plan for the Waste Area Group 10 Track 2 Sites* (DOE/NE-ID-11151).

9.2.4 Industrial Hygienist

The assigned IH is the primary source of information about exposure assessments of the chemical, physical, and biological hazards at the task site. The IH assesses the potential for worker exposures to hazardous agents in accordance with INEEL health and safety manuals, MCPs, and industry-accepted industrial hygiene practices and protocol. By participating in project planning, the IH assesses and recommends appropriate hazard controls for the protection of site personnel, operates and maintains airborne sampling and monitoring equipment, reviews engineering controls for effectiveness, and recommends and assesses the use of PPE required in this HASP (recommending changes as appropriate).

9.2.5 Safety Professional

The assigned safety professional reviews work packages, observes site activity, assesses compliance with the INEEL health and safety manuals, advises the field supervisor on required safety equipment, and recommends solutions to safety issues and concerns that arise at the task site. The safety professional can conduct periodic inspections in accordance with MCP-3449, "Safety and Health Inspections," and have other duties at the task site, as specified in other sections of this HASP or in PRDs and MCPs. Copies of any health and safety inspections will be kept in the project field file.

9.2.6 Radiological Control Technician

If an RCT is required, the he or she will be the primary source of information and guidance on radiological hazards that could be encountered during project tasks and on controls necessary to mitigate such hazards. RCT responsibilities include the following:

- Radiologically surveying the site, equipment, and samples
- Providing guidance for radioactive decontamination of equipment and personnel
- Accompanying personnel who have significant contamination to the nearest INEEL medical facility for evaluation.

The RCT must notify the field supervisor and HSO of any radiological occurrence that requires reporting, as directed by the *INEEL Radiological Controls Manual* (PRD-183).

9.2.7 Fire Protection Engineer

A fire protection engineer provides technical guidance to the HSO and field supervisor about all fire protection issues and can be assigned to review the work packages and conduct pre-operational and operational fire hazard assessments. The fire protection engineer is required to sign all SWPs used as hot work permits within the jurisdiction of his or her facility SAD.

9.2.8 Specialty Subcontractors

Specialty subcontractors can be used to support project activities. A subcontractor lead will be appointed as the single point of contact for all subcontractor communication at the project site and report to the field supervisor for all technical direction and interface issues at the project site. Subcontractor personnel will report health and safety issues to the field supervisor or HSO and can stop work if an unsafe condition exists. The subcontractor lead will also be asked to provide hazard and mitigation information about the nature of the subcontractor's equipment or operations during the POD meeting and can participate in job-site hazard walk-downs when appropriate.

9.2.9 Other Field Team Personnel

All field team personnel, including CFA or TRA operators and subcontractor support personnel assigned to the project, must understand and comply with the requirements of this HASP. The field supervisor (or designee) will conduct a formal pre-job briefing or POD at the beginning of each shift, as described in Section 6. Once at the project site, field team personnel are responsible for reporting unsafe situations to the field supervisor or HSO for corrective action.

9.2.10 Non-field Team Personnel

People at a project site who are not part of the field team (e.g., surveyors or others not assigned a field team support role) are considered non-field team personnel.

Non-field team personnel are considered occasional site workers in accordance with the HAZWOPER and must receive site-specific HASP training before entering work areas at the project site, unless all hazards are mitigated (e.g., during downtime). In such a case, a site-orientation briefing, as described in Subsection 9.2.11, is required before being granted access to the area.

9.2.11 Visitors

Visitors with official business at the project site (including INEEL personnel and representatives of the DOE and state or federal regulatory agencies) can enter the designated or controlled work area only after meeting training requirements shown in Table 6-1.

If no potential for exposure to chemical, radiological, or safety hazards exists (e.g., during downtime), a visitor can be escorted at the project site after receiving a site orientation consisting of the following:

- An overview of the work areas at the site and access restrictions
- Inherent site hazards (e.g., terrain and equipment) and mitigating actions or avoidance
- Required PPE for entry to the site (must be trained to wear required PPE)
- Emergency action to take in case of a take-cover or evacuation alarm or other site emergency.

Note: Visitors might not be allowed into the controlled work areas during certain tasks (such as heavy equipment or drilling operations or work in radiological control areas) to minimize risks to workers and visitors. The field supervisor, in consultation with the HSO and RadCon personnel, will decide whether a visitor can enter a controlled work area.

Where access is allowed, a fully trained task-site representative (e.g., field supervisor or HSO) will escort visitors entering the DWA or CWA of the project site.

A casual visitor to the task site is a person who does not have a specific task or official business at the project site. ***Casual visitors are not permitted in work areas at any project site.***

10. EMERGENCY RESPONSE PLAN

This emergency response plan defines the roles and responsibilities of project personnel during an emergency. Such an emergency could occur at a WAG 10 project site, at a facility or collocated facility, or be an INEEL sitewide emergency. This section provides project-specific emergency response actions that meet the requirements of 29 CFR 1019.120. Details about the INEEL Emergency Response Organization (ERO) are provided in the “INEEL Emergency Plan RCRA Contingency Plan” (PLN-114). PLN-114 describes the overall process developed to respond to and mitigate consequences of emergencies that might arise at the INEEL.

Plan-114 can be activated in response to events at a project site, at the INEEL, or at the discretion of the emergency coordinator (EC) or emergency action manager. Once the INEEL plan is activated, project personnel will follow EC guidance.

Note: DOE O 151.1A, “Comprehensive Emergency Management System,” and 232.1, “Occurrence Reporting and Processing of Operations Information,” classify an “emergency” differently than the OSHA HAZWOPER standard definition. For this reason, the term “emergency event” will be used in this section when referring to a project HAZWOPER emergency.

10.1 Pre-Emergency Planning

The “INEEL Emergency Plan RCRA Contingency Plan” (PLN-114) is the basis for preplanning actions that will be taken in response to INEEL emergency events. That base plan is supplemented with INEEL facility-specific addenda (such as PLN-114-5 [TRA] and PLN-114-1 [CFA]). Preplanning allows the INEEL to anticipate and appropriately respond to abnormal events that can affect the project. Preplanning also ensures that the project emergency response program is integrated with INEEL contingency plans. Specific actions for addressing emergency events are further described in applicable facility-specific emergency procedures. This emergency response plan addresses project-specific planning requirements to meet project needs.

10.2 Emergency Preparation and Recognition

The HASP sections for hazards identification and mitigation (Section 2) and accident prevention (Section 4) provide the strategy that will be followed at project sites to prevent accidents. Likewise, emergency preparation and recognition will require operations personnel to be constantly alert for hazardous situations and for signs and symptoms of chemical exposure or releases. All project personnel should be familiar with the techniques for hazard recognition and the associated response, including proper operational notifications. Emergency phone numbers and evacuation route maps will be located throughout project operational areas.

If applicable, HASP training will include project access and egress procedures that will be used in response to project operational events and INEEL emergencies. Visitors will also be informed of emergency procedures during the hazard- and general-operations-orientation briefing (see Table 6-1). Visitors might also complete HASP training, depending on the project operations area to be accessed. The visitor emergency actions briefing will include identification and locations of alarms, use of communications equipment, location of emergency equipment, and evacuation.

Training, emergency-action, and emergency-notification requirements in MCP-2725, “Field Work at the INEEL,” will be met for all projects conducted outside primary facility area boundaries (i.e., sites CFA-10A and MISC-33).

On-scene response to and mitigation of operational emergencies could require the expertise of INEEL fire department and medical personnel. Emergencies that could occur include the following:

- Accidents resulting in injury
- Fires
- Spills of hazardous or radiological materials
- Tornadoes, earthquakes, and other adverse natural phenomena
- Vehicle or transportation emergencies
- Safeguard and security emergencies
- Emergencies at nearby facilities, prompting evacuation or take-cover actions at the task site.

10.3 Emergency Facilities and Equipment

Emergency response equipment maintained at the project site includes the items listed in Table 10-1. The INEEL fire department maintains an emergency hazardous material response van that can be used to respond to an event or emergency at the project site. Fire department personnel are also trained to provide immediate hazardous material spills and medical services. Additionally, medical personnel at the CFA-1612 medical facility are available to evaluate and stabilize injured personnel or those experiencing signs and symptoms of exposure to hazardous materials.

Table 10-1. Emergency response equipment to be maintained at the project site during operations.

Equipment Name and Quantity Required	Location at Task Site	Responsible Person	Frequency of Inspection or Verification
First-aid kit	One in each project vehicle	HSO	Monthly: check seal only unless the seal is broken
Eyewash bottles ^a Eyewash station ^a	In or near DWA or CWA	HSO	Monthly
Hazardous materials spill kit	Project vehicle	HSO	Daily verification
Communication equipment	Onsite	Field supervisor	Daily radio check (if radios are used)
Fire extinguishers, 10A/20BC	One 5A/10BC (or larger extinguisher in each project vehicle, as a minimum)	HSO	Monthly

a. An eyewash bottle will be used to provide an immediate eye flush if required. The HSO will discuss the location of the eyewash station (gravity-flow or fixed that meets the requirements of ANSI Z358.1-1998) during the pre-job briefing.

10.4 Emergency Communications and Notifications

If an emergency occurs, INEEL emergency response resources will need to be summoned. Communications equipment at the task site could include a combination of radios, telephones (e.g., mobile, cellular, or facility), and pagers. Communication methods described below will be used during emergencies.

During emergencies, the Warning Communications Center (WCC) (and the TRA shift supervisor if the emergency is within TRA) will be notified. The WCC will then make the required ERO notification. The following information should be communicated, as available, to the WCC:

- The caller's name, title (e.g., field supervisor or HSO), telephone number, and pager number
- Exact location of the emergency
- Nature of the emergency, including time of occurrence, current site conditions, and special hazards in the area
- Numbers of injured, types of injuries, and conditions of injured
- Emergency response resources required (e.g., fire, hazardous material, and ambulance).

10.5 Emergency Alerting, Responses, and Sheltering

Alarms and signals are used at the project site and the INEEL to notify people of abnormal conditions that require a specific response. Responses to these alarms are addressed in general employee training and facility access training. Emergency sirens throughout the INEEL are the primary means to signal emergency TAKE COVER or EVACUATION protective actions. To signal a project site emergency event, a separate set of emergency signals has been established based on horn blasts (e.g., vehicle or air horn).

Depending on the field location, facility alarms might be too far away to be heard at the project site. If a WAG 10 project site is outside the audible range of the facility alarms, then the notification to take cover or evacuate should be received on the field radio, mobile or cell phone, or pager. The project site emergency event signals will then be used to alert personnel to take emergency actions.

10.5.1 Take Cover—Continuous Siren

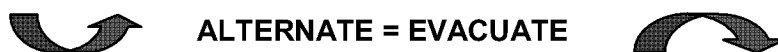
Radiation or hazardous material releases, adverse weather conditions, or other conditions could require that people take cover inside the nearest building. A TAKE COVER protective action might be initiated as part of a broader response to an emergency and could precede an evacuation order. The order to TAKE COVER is usually announced by activating the emergency siren. The signal to take cover is a CONTINUOUS SIREN.



However, the order to take cover can also be given by word of mouth, a radio, or the voice paging system. When ordered to TAKE COVER, project personnel will place the site and equipment in a safe configuration (as appropriate) and then seek shelter at a facility building (inside or near it) or, alternatively, a project vehicle. Eating, drinking, and smoking are prohibited during take-cover situations.

10.5.2 Total Area Evacuation—Alternating Siren

A total area evacuation is the complete withdrawal of personnel from the project site and the entire facility area. When ordered to EVACUATE, project personnel will place equipment and the site in a safe configuration (as appropriate) and then proceed along the specified evacuation route to the designated assembly area or as directed by the EC. The evacuation signal is an ALTERNATING SIREN.



For total area evacuations, facility command posts are activated. Everyone at the task site will gather at the appropriate primary facility evacuation assembly area, the location designated by the EC, or, if outside a primary facility area boundary, the location designated by the field supervisor. The field supervisor or trained alternate will then account for everyone at the site by checking the site attendance log. In this situation, the field supervisor will report the result of the accountability process to the WCC or to the facility EC or area warden (if inside a facility).

10.5.3 Project Site Evacuation—Vehicle Horn Blast

A project site evacuation is the complete withdrawal of personnel from the project site, but it does not require the complete evacuation of the entire facility (if the site is located within a facility) or INEEL site area. A single, long horn blast (e.g., from a vehicle) will be the project's primary emergency evacuation signal (as listed in Table 10-2). However, the order to evacuate can also be given by word of mouth, radio, or voice paging system. When ordered to evacuate the project site, personnel will place the site and equipment in a safe condition (as appropriate) and then proceed along the specified evacuation route to the designated project site assembly area or as directed by the field supervisor. Eating, drinking, and smoking are prohibited during emergency evacuations.

Table 10-2. Project internal emergency signals.

Device or Communication Method	Signal and Associated Response
Air- or vehicle-horn blasts	<u>One long blast</u> —emergency evacuation; evacuate project site immediately. Proceed in an upwind direction to the designated assembly area, as specified by the field supervisor.
	<u>Two short blasts</u> —nonemergency evacuation of immediate work area. Proceed to the designated assembly area, as specified by the field supervisor.
	<u>Three long blasts</u> or verbally communicated—all clear; return to project site.

10.6 Personnel Roles, Lines of Authority, and Training

10.6.1 INEEL Emergency Response Organization

The INEEL ERO structures are based on the incident command system and are described in PLN-114 and facility-specific addenda to that plan.

10.6.2 Role of Project Personnel in Emergencies

Depending on the emergency event, a graded response and subsequent notifications will take place. The field supervisor and project personnel responsibilities are described below. Personnel will respond to emergencies only within the limits of their training and as designated by their position. Emergency responses will also be covered as part of the HASP briefing.

The MISC-33 and CFA-10A sites are located outside primary facility area boundaries. Thus, work at these sites qualifies as “field work” under MCP-2725, “Field Work at the INEEL,” and the CFA SAD has jurisdiction over this work. For the TRA-60 and -63 sites inside TRA, the TRA SAD has jurisdiction, and the appropriate TRA facility emergency contacts will be notified after the initiation of any project event or emergency. Specific reporting requirements will be addressed during the pre-job briefing and/or POD.

10.6.2.1 Field Supervisor. The field supervisor (or designated alternate) is responsible for initiating all requests for emergency services (e.g., fire and medical) and for notifying the WCC and TRA emergency contact (inside TRA) of abnormal (or potential emergency) events that occur during the project. The field supervisor can also serve as the area warden (or designate that responsibility to another person who has been trained as area warden) and conduct personnel accountability. Additionally, the field supervisor will control the scene of the emergency event until a higher-tiered incident command system authority arrives to take control. When relinquishing this role, the field supervisor (or designated alternate) will provide all of the available information about the nature of the event, potential hazards, and other information requested.

10.6.2.2 Project Personnel. Every person at the project site has a role to play during a project emergency event or INEEL emergency. Each worker must be constantly aware of potential dangers and immediately report them to the field supervisor. All personnel are expected to watch out for their fellow workers, report concerns to the field supervisor, and take emergency actions as described in this section. Specific roles and responsibilities are further detailed in Table 10-3.

Table 10-3. Responsibilities during an emergency.

Responsible Person	Action Assigned
Field supervisor (or designee)	Signal evacuation. Report spill to WCC and appropriate spill-notification personnel, and take mitigative actions. Contact WCC.
Field supervisor (or trained designee)	Serve as area warden, conduct accountability, and report to the WCC, the TRA shift supervisor, or the EC, as applicable.
HSO, medic, and first-aid trained personnel	Administer first aid to victims (voluntary basis only).

10.6.2.3 Personnel Accountability and Area Warden. Project personnel are required to evacuate the site in response to TAKE COVER, EVACUATION, and project site evacuation alarms. In all cases, the field supervisor (or trained alternate) will be the area warden for the project and complete the personnel accountability (after positive sweeps of the project site) based on the attendance log. The results of this accountability will then be reported to the WCC, the TRA shift supervisor, or the EC (if the command post has been formed), as applicable.

10.6.2.4 Spills. If the material spilled is known and small enough to be contained safely at the task site, project personnel will control the spill using spill supplies at the site and immediately report the event to the WCC or TRA shift supervisor (if inside TRA). Additional reporting requirements will be determined by the WCC or the TRA shift supervisor or equivalent (if inside a facility) in accordance with MCP-190, “Event Investigation and Occurrence Reporting.” If a hazardous material is released, project personnel will comply with the following immediate spill response actions.

10.6.2.4.1 Untrained Initial Responder—If the initial responder is untrained, the material characteristics are unknown, or additional PPE is required, then do the following:

- Place equipment in a safe configuration.
- Notify the field supervisor.
- **Evacuate** to an upwind location, and **isolate** the immediate area.
- **Notify** the WCC or the TRA emergency contact (if inside TRA), and **warn** others in the area.

10.6.2.4.2 Trained Responder—When material characteristics are known and no additional PPE is required, do the following:

- Place all equipment in a secure configuration.
- Notify the field supervisor.
- **Stop** the spill if it can be done without risk (e.g., returning the container to the upright position, closing valve, and shutting off power).
- **Secure** any release paths if doing so is safe.
- **Notify** the WCC or the TRA emergency contact (if inside TRA), and **warn** others in the area.

10.7 Medical Emergencies and Decontamination

Medical emergencies and responses to injuries or suspected exposures will be handled as stated in Subsection 8.2. Decontamination of personnel and equipment is described in Subsection 11.2.

10.8 Evacuation Assembly Areas and Central Facilities Area Medical Facility

Because some project activities will be conducted outside of a primary facility area, the INEEL evacuation routes listed in PLN-114 will be used. Evacuation assembly areas will be discussed during the pre-job briefing. Figure 10-1 shows the location of the CFA-1612 Medical Facility.

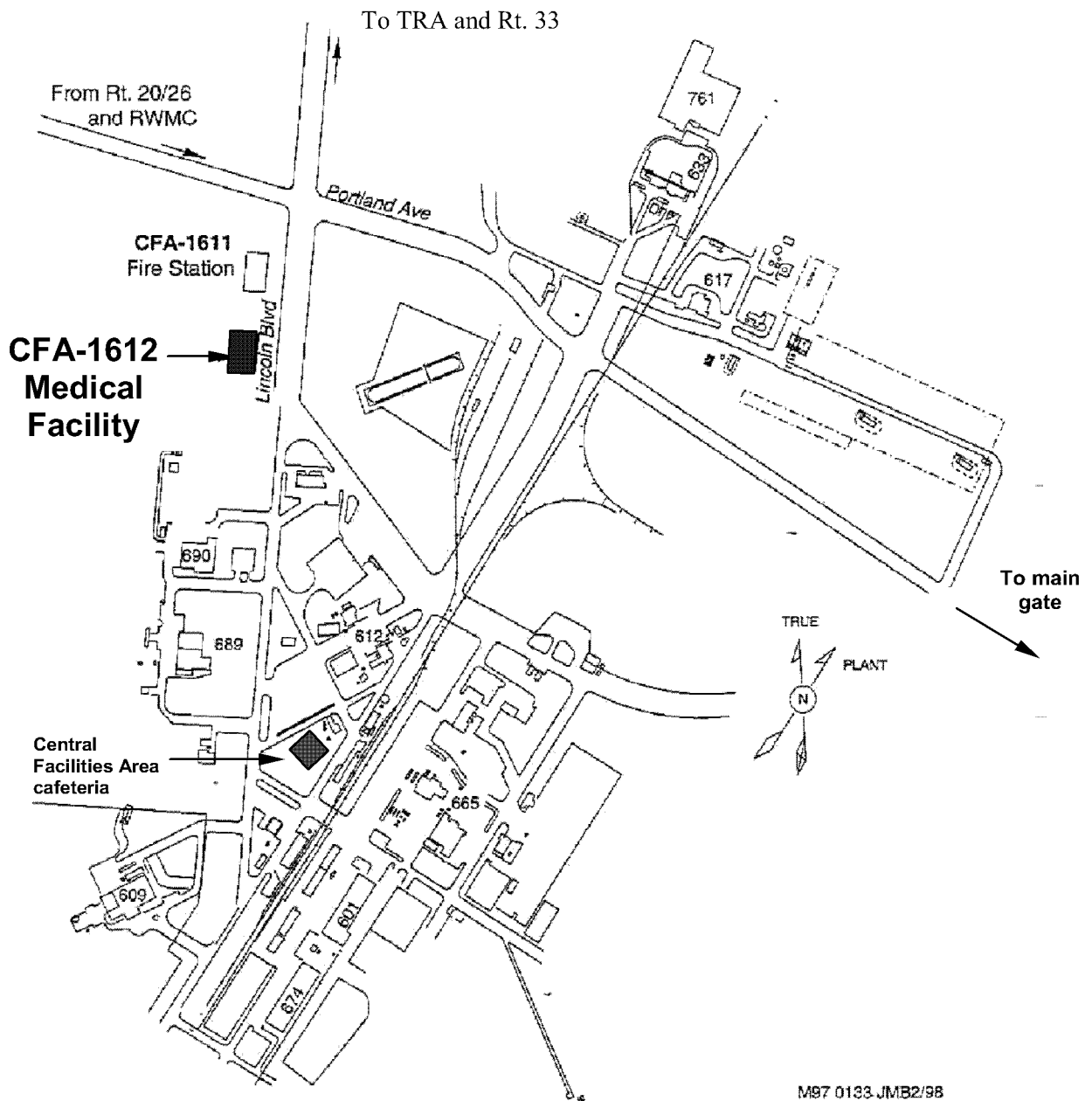


Figure 10-1. Map showing the location of the CFA medical facility (CFA-1612).

10.9 Reentry, Recovery, and Site Control

Reentry and recovery activities will follow general site security and control requirements identified in Section 7 unless conducted as part of an emergency response. All project site entries that support emergency actions will be controlled by the on-scene commander with technical support from the field supervisor.

10.9.1 Reentry

Reentering the scene of an emergency is sometimes necessary. Reasons for reentry include the following:

- Searching for and rescuing people
- Responding to medical first-aid needs
- Performing safe shutdown actions
- Mitigating the emergency
- Evaluating damage for reports
- Surveying radiation or hazardous material.

Reentries will be carefully planned to ensure that personnel are protected from harm and to prevent initiating another emergency event. Reentry planning is undertaken on a graded approach, depending on the nature of the initiating event and as directed by the on-scene commander.

10.9.2 Recovery

After initial emergency actions have been taken and effective site controls are established, response efforts will shift toward recovery. Recovery is the process of assessing post-event and -emergency conditions, developing a plan for returning to pre-event and -emergency conditions, when possible, and following the plan to completion. The on-scene commander is responsible for determining when a situation is stable enough to terminate the emergency and enter the recovery phase. The project manager, with concurrence from the SAD, will appoint the recovery manager.

10.10 Critique of Response and Follow-up

A review and critique will follow all project emergency events, drills, and exercises at the INEEL. In some cases, an investigation could be required before starting the recovery actions. Consequently, evidence should be carefully preserved when appropriate.

10.11 Telephone and Radio Contact Reference List

Table 10-4 lists the general points of contact for the project. Because the personnel listed could change, working copies of the list will be generated, as required, to note new positions and assignment changes; consequently, this HASP should not be revised to note such changes.

Table 10-4. Project emergency contact list.

Contact Title	Contact Name	Phone Number or Radio Net	Cellular Phone Number	Pager Number
WCC, fire, medical emergency, and security		777 526-1515		
CFA site area director	Steven L. Winn	6-1075	520-6013	5494
TRA site area director	Joel Duling	553-4347	521-4298	7095
TRA shift supervisor	553-4353			
TRA Security (main gate)	553-4236			
Manager of projects, BIC	Michael Graham	6-5020	520-4623	6791
Project manager	Michael Hodel	6-9684	520-6563	3950
Field supervisor	Lori Lopez	6-6015	521-2409	7678
Health and Safety officer	Lori Lopez	6-6015	521-2409	7678
Safety professional	Kerry D. Briar	6-5506		6627
BIC WAG 10 Health and Safety point of contact	Kerry D. Briar	6-5506		6627
Industrial hygienist	Nathan Wegener	6-5213	521-4962	0818
BIC Safety, Health, and Quality Assurance lead	Mark Langlois	6-2160	520-1297	9042
BIC WAG 10 environmental compliance	Scott Reno	6-5778	520-0271	4713

11. DECONTAMINATION PROCEDURES

The potential for encountering radiological contamination does exist at TRA-63, and expected radiological contamination levels and required PPE will be listed in the RWP. Except for routine sampling tasks, however, the potential need for chemical decontamination is considered low. This section provides guidance on radiological and chemical decontamination that might be needed during project tasks.

11.1 Contamination Control and Prevention

Contamination control and prevention procedures will be implemented to minimize personnel contact with contaminated surfaces. Where contamination is encountered, engineering controls, protective barriers, protective clothing, modified work-control practices, and hold points and surveys will be used.

11.2 Equipment and Personnel Decontamination

Personnel and equipment decontamination procedures are necessary to control contamination and protect personnel. Contaminated soil on equipment or protective clothing will be physically removed from surfaces before the equipment and clothing are removed from the site. If significant soil removal from heavy equipment is required, then decontamination measures will be evaluated by the HSO and project IH in conjunction with the RCT on a case-by-case basis to determine the most appropriate level of PPE to be worn during the decontamination activities.

Radionuclide decontamination that may be required for equipment or areas will be done in accordance with Chapter 4 of the *Radiological Controls Manual* (PRD-183). An RWP requiring PPE and monitoring will be generated if radiological contamination is encountered.

The following subsections describe specific equipment and personnel decontamination methods.

11.2.1 Equipment Decontamination

A decontamination pad can be established if large-scale equipment decontamination is required before releasing such equipment from the project site. Physical removal of soil debris (e.g., scraping) will be the primary decontamination method. If additional equipment decontamination is deemed necessary (e.g., wet wiping with an amended water solution), then the project IH (and RCT for radiologically contaminated equipment) will determine the appropriate PPE to be worn for this task.

11.2.2 Personnel Decontamination

Project activities will be conducted in Level D or modified Level D PPE unless upgrading is warranted. Engineering controls used in conjunction with work controls and proper handling of nonradiologically contaminated soil and samples will be the primary means of eliminating the need for personnel decontamination.

When personnel decontamination is required, removal of the outer layer of protective clothing (e.g., gloves, coveralls, or booties) will be the primary decontamination method. Additional personnel decontamination techniques for nonradiologically contaminated soils will be determined by the assigned project IH on a case-by-case basis.

If radiological contamination requiring personnel decontamination is encountered, then decontamination will be done under the direction of an RCT in accordance with MCP-148, "Personnel Decontamination."

11.2.3 Decontamination in Medical Emergencies

Medical care for serious injuries or illnesses will not be delayed for decontamination. In such cases, gross decontamination can be done by removing the injured person's outer protective clothing (if possible); other contaminated areas may be contained with a bag or glove. If removing contaminated PPE would cause further injury (except for the respirator, which must be removed), the individual will be wrapped in plastic, blankets, or other available material to help prevent contaminating the inside of the ambulance, medical equipment, and medical personnel.

Project personnel trained in first aid will then immediately evaluate (on a voluntary basis) the injured worker at the project task site. The injured worker will be stabilized within the limits of training of the first-aid trained individual, and the field supervisor will contact the WCC to summon emergency services (i.e., fire department and CFA medical services) to the project site.

The IH or RCT (depending on the type of contamination) will accompany the employee to the medical facility to provide information and decontamination assistance to medical personnel. Contaminated PPE will be removed at the CFA medical facility and carefully handled to prevent the spread of contamination.

11.3 Doffing Personal Protective Equipment and Decontamination

As stated earlier, no personnel decontamination beyond doffing of PPE is anticipated for this project. Careful removal of the outer PPE will be the primary decontamination method.

The specific doffing sequence of modified Level D and C PPE (and the associated decontamination procedures) will be based on the nature of the contamination. A general approach for doffing modified Level D and C PPE is described below. However, no single doffing strategy works for all circumstances. Modifications to this approach are appropriate if site conditions change or at the discretion of the project HSO in consultation with the project IH and RCT (if radiological hazards are present).

11.3.1 Modified Level D Personal Protective Equipment Doffing and Decontamination (if required)

When wearing modified Level D protective clothing (e.g., Tyvek coveralls and booties) is required, it will be doffed using standard removal techniques (rolling the outside surface inward and down), which will constitute the initial decontamination step. If the protective clothing is also being worn as an anti-C layer, then tape, gloves, booties, and any required dosimetry will be removed following the posted radiological doffing sequence. All PPE will be placed in the appropriately labeled waste container(s) for disposal. Doffing and any required decontamination will take place at the boundary between the site work area or radiological control area. If anti-C clothing is being doffed, then doffing will be followed by a personal contamination survey, as stated in the RWP.

11.3.2 Level C Personal Protective Equipment Doffing and Decontamination

When respiratory protection is worn in conjunction with protective clothing (Level C PPE), the modified Level D sequence will be followed with one additional step. After protective clothing is doffed, respirators will be removed and placed in a separate container. In a radiological control area, a survey of

the face and sealing surfaces of the respirator will then be done by the RCT or, as part of the posted survey instructions, by the respirator wearer. Doffing and any required decontamination will take place at the designated work area or radiological control boundary, as described above. If exiting a radiological contamination area, personnel will conduct the proper personal survey, as stated in the RWP.

Note: Under some radiological conditions, two sets of anti-C clothing will be worn. When required, the posted instructions will address the proper doffing sequence for both sets.

11.4 Site Sanitation and Waste Minimization

Site personnel will use the toilet facilities at CFA or TRA. Potable water and soap or disposable sanitizing towelettes will be made available in these areas for personnel to wash their hands and face upon exiting the work area.

Waste materials will not be allowed to accumulate at routine monitoring sites. Appropriately labeled containers for industrial waste and CERCLA waste (as required) will be maintained at the project site. Personnel should make every attempt to minimize waste through the judicious use of consumable materials. All site personnel are expected to make good housekeeping a high priority at the job site.

12. RECORD-KEEPING REQUIREMENTS

12.1 Industrial Hygiene and Radiological Monitoring Records

When industrial hygiene support is required, the IH will enter airborne monitoring and sampling data (area and personal) collected for exposure assessments into the INEEL Hazards Assessment and Sampling System database. All monitoring and sampling equipment will be maintained and calibrated in accordance with INEEL procedures and the manufacturers' specifications. Industrial hygiene airborne monitoring and sampling exposure assessment data are treated as limited access information and maintained by the IH in accordance with INEEL health and safety manual procedures.

When required, the RCT will maintain a logbook of radiological monitoring, daily project operational activities, and instrument calibrations. Radiological monitoring records are maintained in accordance with MCP-9, "Maintaining the Radiological Control Logbook."

Project personnel or their representatives have a right to the monitoring and sampling data (area and personal) from the IH and the RCT. When they become available, results from monitoring data will also be communicated to all field personnel during daily POD meetings and formal pre-job briefings in accordance with MCP-3003.

12.2 Field Logbook and Site Attendance Record

Logbooks will be maintained in accordance with MCP-1194, "Logbook Practices for ER and D&D&D Projects." The field supervisor will keep a record of daily site events in the field logbook and maintain accurate records of all people who are onsite each day in a site attendance logbook. The site attendance logbook may be the same as the field logbook, depending on the project. Personnel will only be required to sign in and out of the attendance record once each day. The field supervisor is responsible for maintaining the site attendance record and ensuring that all personnel on the project site sign in (if required). Logbooks must be submitted to Administrative Records and Document Control (ARDC) within 30 days of completing field activities.

12.3 Administrative Record and Document Control Office

ARDC will organize and maintain data and reports generated during BIC field activities. ARDC maintains a supply of all controlled documents and provides a documented system for the control and release of controlled documents. Copies of this HASP, the BIC project execution plan (PLN-694), the quality assurance project plan, and other documents pertaining to this work are maintained in the project file.

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